Volunteer Firemen

JANUARY

1942

NATIONAL FIRE PROTECTION ASSOCIATION
60 Batterymarch Street INTERNATIONAL Boston, Massachusetts

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Above:—Photo shows our No. 104 Folding Stretcher —becomes rigid when opened—is used to evacuate injured persons—SAFELY and QUICKLY!

Below:—Photo shows Stretcher arriving at bottom of Evacuator with injured person. Write for our new catalog and learn how to protect your citizens.

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DETROIT, MICHIGAN

Volunteer Firemen

Volume 9 Number 1

Published by the National Fire Protection Association, a voluntary non-profit organization, 60 Batterymarch Street, Boston, Mass.

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AUTOMATICALLY with the Declaration of War the fire departments of the United States must assume obligations and responsibilities similar to those already assumed by the fire departments in the Dominion of Canada.

If this Continent is subjected to attack by Japan or other unfriendly foreign powers, that attack will almost inevitably come in the form of a fire attack with incendiary bombs. Such attacks are possibilities now, however remote they may have seemed in recent months, and it is incumbent upon every fire department, large and small, to be prepared to meet such an emergency if and when it comes, and to take a leading part in civilian defense programs in their community.

Fortunately for us there is no lack of adequate information as to what can happen, England has been most generous in supplying information about its experience with fire attack. Our friends in Canada have been most generous in supplying information about their plans in defense matters. We have already furnished you with pertinent data that has come from England and Canada and we will continue to furnish such data. No fire department now can afford to ignore this data and no fire department can remain complacent or indifferent to its responsibilities.

Aside from possible fire attack from the air, an even more likely possibility, it seems to us, is an outbreak of sabotage aimed at important defense industries, sources of power, transportation systems, etc. Fire has always been a principal weapon of the foreign agent bent on malicious destruction. Our fire departments here again must take the lead in protecting the country against such acts.

A third and equally important responsibility facing the fire service is the responsibility of insuring fully effective work in our industrial plants by preventing crippling fires of any character from slowng up production. Every fire department should see that a private fire brigade is organized and trained in every plant producing war supplies in its area and it should make sure by frequent inspections that undue concentrations of values are not permitted to exist so that they may be destroyed in one fire.

It is not unreasonable in time of war to expect that the fire department in any community will make sure that all of the citizens in the community are acquainted with the fundamentals of fire prevention so that all careless and needless fires may be eliminated.

The protection of life and property against fire is important at any time. It is vital in war time. May every fire department rise to its fullest opportunities for service in the dangerous months ahead.

Percy Bugbee

General Manager, N.F.P.A.

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THE front cover picture this month (*British Combine Photos, Ltd.*) typifies the alert home front. The man shown with the telephone and microphone is a roof watcher at a defense plant. His job is to warn workers of the approach of enemy aircraft.

FROM a review of many serious fires occurring during winter snowstorms it seems clear that one of the greatest handicaps for fire fighters at such times is the burying of hydrants by snow drifts and snow pushed back by plows. No matter how aggressively city officials tackle the job, it is usually several days after a snowstorm before snow can be cleared away from all of the many hydrants in the average community. In the meantime, with the response of apparatus slowed by ice and snow, the two or three minutes that are often lost in locating and digging out a hydrant may have disastrous results if winter winds are fanning a fire.

There are two things that can be done to overcome this problem. Many fire departments place a brightly painted pole or other conspicuous marker beside every hydrant so that it may be quickly located.

The second suggestion, of perhaps even more importance, is that radio stations and newspapers be requested to make the following announcement in connection with storm warnings given the public: "Fire Chief (name) requests each householder to see that the hydrant nearest his property is kept accessible to the fire department. It may be several days before the city can get all hydrants shovelled out. In the meantime, the hydrant nearest you may be needed to save your property from destruction by fire. Shovel snow away from your hydrant first!"

MANY cities that have in the past discounted the possible need of air raid alarm devices have been frantically trying to get such equipment installed during the past few weeks. Many small communities are fortunate in having fire alarm sirens or horns upon which air raid warnings may be sounded.

From reports reaching this office it appears that almost every community has chosen a different number for an air raid signal with the likelihood of confusion should a raid occur. It is likely that a standard warning eventually will be adopted. Some simple warning, such as three fives, most likely will be chosen rather than the complicated signals adopted in some areas. A few fire alarm boxes may have to be renumbered where numbers conflict with a universal air raid signal.

LAST month seven departments with 70 men joined the Volunteer Firemen's Section for the first time. Sixty-five departments with 1,336 men renewed membership. This makes a total enrollment of 728 departments and 14,860 men. The following departments are newly enrolled:

Sherwin Williams Defense Corporation, Marion, Illinois.

Younker Brothers, Des Moines, Iowa.

Concordia Fire Department, Concordia, Kansas.

Stone Harbor Volunteer Fire Company No. 1, Stone Harbor, New Jersey.

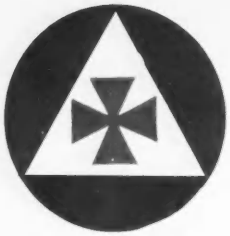
Garden Oaks Fire Department, Houston, Texas.

East Troy Volunteer Fire Department, East Troy, Wisconsin.

International Nickel Company of Canada, Ltd., Copper Cliff, Ontario.

THE estimated U. S. fire loss for November, 1941, according to the National Board of Fire Underwriters is $23,822,000. This figure is based on notices of incurred loss received by company members of the Board, plus an allowance for unreported and uninsured losses. Losses for the first eleven months of 1941 are $13,243,480 more than the losses for the same months last year. The following table shows the losses for the first eleven months of both 1940 and 1941.

	1940	1941
January	$36,260,650	$26,470,000
February	34,410,250	26,102,000
March	29,788,800	31,471,000
April	26,657,190	29,330,000
May	23,446,590	25,637,000
June	19,506,000	24,943,000
July	20,322,800	23,698,000
August	20,722,100	24,122,000
September	21,198,000	24,668,000
October	22,091,140	30,833,000
November	23,449,000	23,822,000
Total 11 months	$277,852,520	$291,096,000



Auxiliary firemen.

Preparing for War on the Home Front

Fire watchers.

LOCAL efforts in civilian defense have been under consideration in many cities and towns, but the start of the war has finally brought home the grim reality that such measures are no longer something to be merely worked out on paper.

The U. S. Office of Civilian Defense is the agency charged with responsibility for the national aspects of civilian defense work. So far as fire matters are concerned, the Office has machinery for their orderly consideration and treatment. In September, an Advisory Committee on Fire Defense was organized and a Fire Defense Section was established.

OCD maintains contact between its headquarters in Washington and the several states through nine regional offices serving regions co-extensive with U. S. Army Corps Areas. These headquarters are located as follows: (1) Boston, (2) New York City, (3) Baltimore, (4) Atlanta, (5) Columbus, (6) Chicago, (7) Omaha, (8) San Antonio and (9) San Francisco.

The pattern of civilian defense in most states is a defense council or committee appointed by the governor. Many states have already assigned an executive staff, one member of which is a fire coordinator. Likewise each municipality is expected to have its defense committee or council under the authority of the mayor. The local fire chief is usually assigned to be in charge of all fire matters.

One of the first jobs recommended by OCD is that the local civilian defense organizations enroll groups of volunteer workers. These workers include air raid wardens, auxiliary police, bomb squads, auxiliary firemen, fire watchers, medical corps, rescue squad members, and others. Insignia to designate workers in the various groups have been prepared. The insignia for auxiliary firemen and fire watchers are shown at the top of this page.

Auxiliary firemen are enrolled to assist the regular fire department in case of air raids or extensive fires due to sabotage or other emergency. In most cases they will probably serve substantially as regular members of the fire department, even though on a volunteer basis.

The term "fire watchers" is being used to designate the members of neighborhood groups of fire wardens. These neighborhood groups are to be supplied with first aid fire fighting equipment such as water pump tanks with the idea that the fire watchers can dispose of incendiary bombs in most cases without calling the regular fire department. The fire watchers may be trained by the local fire department but as a practical matter for operating efficiency they will be under the direction in most cases of the air raid wardens' organization. This leaves the regular firemen and auxiliary firemen free to function effectively as a unit. The fire watcher groups and air raid wardens would have the responsibility of reporting fire situations to which the fire department must be called.

IN the civilian defense set-up the office of air raid warden is one of the most important. Each city and town would have a chief air raid warden with assistants designated on some basis such that the entire community may be covered. One basis suggests a local warden for each 500 residents. The wardens' organization helps to enforce blackout regulations, sees that the persons find shelter during air raids, and maintains patrol posts which keep in touch with both the military and municipal services having civilian defense functions. Suggestions for the organization of air raid wardens' posts have been covered in general recommendations published by OCD.

How the aircraft warning network works was described in some detail in last month's issue of VOLUNTEER FIREMEN.

Data has been prepared on blackouts but OCD warns that they are not yet ready to generally require them. Great confusion and even injury and inconvenience to many persons are likely to be the results of even practice blackouts and attention has been called to the need for very careful planning of all the details of such an operation. Helpful material published includes instructions on preparations for blackouts. Obscuration methods and materials available are described in some detail.

A partial list of publications issued by the U. S. Office of Civilian Defense to date includes the following. Where a price is quoted these may be obtained directly from the U. S. Government Printing Office.

Local Organization for Civilian Protection, 16 pages.

Enrolled Volunteer Worker Groups for Civilian Protection, 16 pages.

A Civilian Defense Volunteer Office, 42 pages.

A Handbook for Air Raid Wardens, 32 pages, 10c.

Air Raid Warning System, 20 pages.

Municipal Signaling Systems, 28 pages, 10c.

Protection of Industrial Plants and Public Buildings, 12 pages.

Civilian Defense Schools, 16 pages.

Blackouts, 60 pages, 25c.

Arkansas Reports Active Fire Defense Program

ARKANSAS has completed an inventory of all fire fighting equipment in the state. This is now being used to develop mutual aid plans. In many cases the lack of proper fire equipment or improper maintenance of equipment was brought to light by the inspection conducted while making this inventory.

Fire defense schools were scheduled in each of the 16 defense regions of the state before the end of 1941. Last August a school for regional instructors was held at Little Rock. New instructors were given teacher training at this conference and instructors who had had this training were used to validate the text of an Emergency Fire Defense Manual. This manual has since been issued under the auspices of the Civil Protection Division of the Arkansas Emergency Council. It was published through the cooperation of the Arkansas Fire Prevention Bureau and the Arkansas Municipal League. The text includes the following subjects: The Fire Service and National Defense, Combating Fire from the Air, Emergency Fire Equipment, Safeguarding Our Fire Departments, Water Supply, Organizing Mutual Aid Systems, Alarm Systems, Protecting Our Industrial Plants, Chemical Warfare, and First Aid.

A load of tear gas dumped on these men emphasizes to them the importance of getting gas masks on quickly and getting them on right. The "victims" are members of one of the classes of firemen and policemen at the Civilian Defense School, Edgewood Arsenal, Maryland.

Gas Warfare and Civilian Defense

HOW likely are firemen to encounter war gases? The best answer to this question comes from an authoritative statement made before a recent meeting of the American Chemical Society by Major General William A. Porter, Chief, Chemical Warfare Service, U. S. Army. He said in part:

"Gas warfare as we knew it in the World War and most recently in the Italian-Ethiopian campaign has been absent from the battlefields of Europe and Asia, but we know that all of the European belligerents are well equipped with chemical agents and well prepared to use them.

"Whether or not gas warfare will be used depends solely on whether Hitler's generals feel that the advantage to them would surely outweigh any disadvantages. Until now they have not felt so and I think rightly. Persistent gas, at least, is primarily a defensive weapon and would have been of much more value to the retiring Russians than to the advancing Germans. Hitler understands well that mustard gas on British beaches would add materially to the precariousness of an invasion. On the other hand, should he believe that one gigantic overwhelming stroke with gas would win the war for him, I am convinced that he would use it without question.

"That a gas attack is considered possible at any time is evidenced by the fact that all of the belligerent nations have equipped their armies with gas masks and have them ready for immediate use. General staffs do not require soldiers to carry three or four pounds of extra weight just for fun. Every soldier in our expanded army is now provided not only with his individual gas mask for training purposes, but there is on hand a service mask ready for issue to him when necessary.

"We have designed a suitable mask for civilian use containing the minimum of strategic materials and through additional orders are ready to start production of large quantities without delay.

"Defense against chemical agents requires many other items than gas masks. Protective clothing must be procured. Protective ointment must be provided. The shoe impregnite which protects the feet against vesicants must be supplied. The charcoal production must be greatly expanded and accelerated. Many minor but important items for protection must be manufactured and distributed.

"Protective devices, of course, are not in themselves enough. The second great task which the emergency thrust upon us was the supervision of the training of our expanded army in defense against chemical attack. One of the greatest dangers from such an attack is the psychological response found in untrained personnel. Gas has been a particularly frightening weapon. It is only by patient and thorough anti-gas training that troops can overcome their instinctive fear of such attacks.

"We are now conducting classes to train firemen and other civilian workers to defend their cities against incendiary attacks. They will act as instructors for the many thousand civilian wardens who would be necessary should we be attacked."

Arkansas Instructor on Leave of Absence

Carl S. Smalley, Fire Instructor in charge of the Arkansas firemen's training program, is on leave of absence, serving as assistant fire chief at an industrial plant in Texarkana.

Defense Activities In California

THE California State Council of Defense has issued a 31-page manual Organizing for Defense. The manual describes the work of federal and state and local defense agencies.

During October the Fire Defense Section of the State Council of Defense held a conference on fire protection under emergency conditions.

Massachusetts Names Fire Coordinator

PERCY CHARNOCK, Assistant Manager, New England Fire Insurance Rating Association, recently appointed State Fire Coordinator, is working with a committee of fire chiefs to improve fire department running cards in metropolitan areas of Massachusetts.

Michigan Makes Survey of Fire Equipment

THE Fire Marshal Division of the Michigan State Police have completed a detailed survey of fire department personnel and fire fighting equipment in the state. The survey is intended to give each fire chief information as to the equipment available from adjoining cities and towns in an emergency. Other forms of emergency equipment are also listed in the survey.

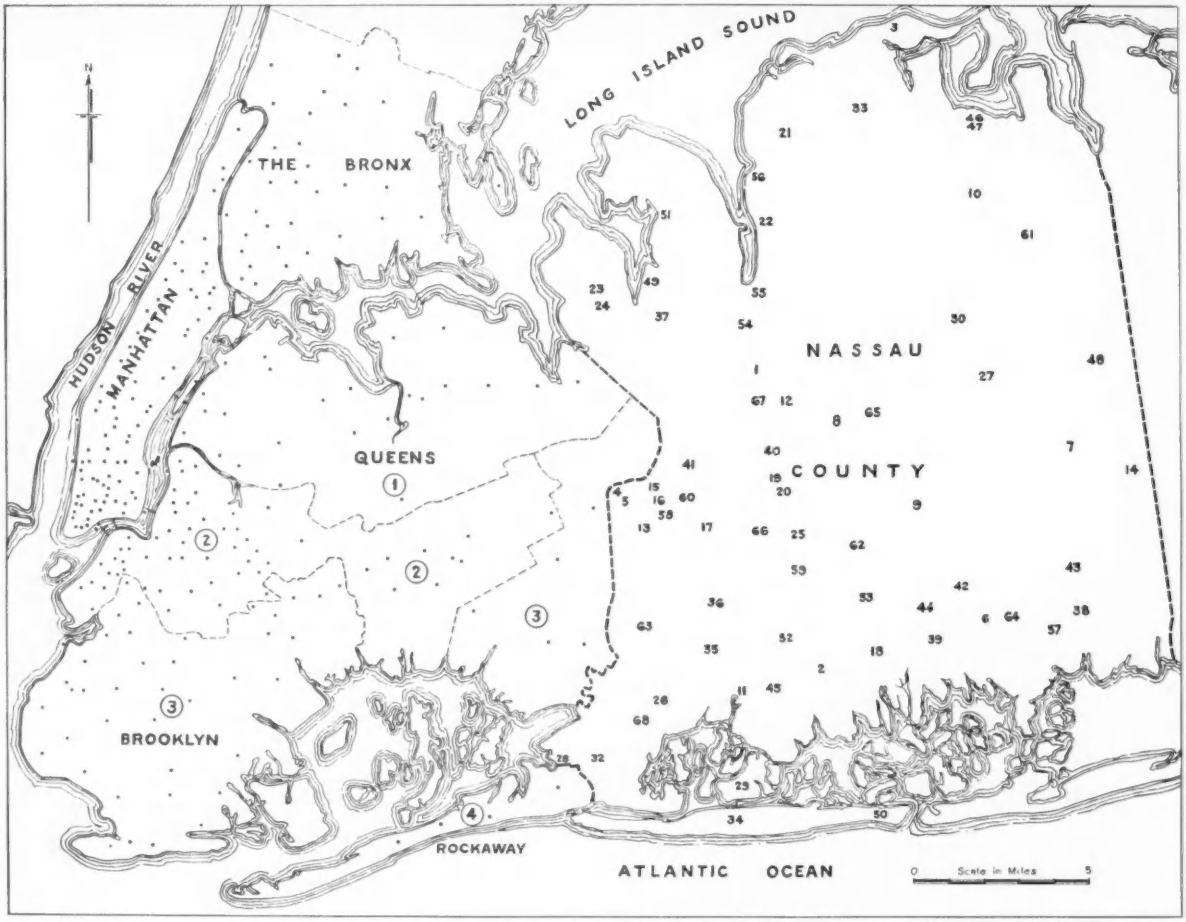
Nebraska Fire Marshal State Fire Defense Head

RAYMOND L. CROSSON, Nebraska State Fire Marshal, has been named head of a State Fire Defense Committee whose task it is to awaken public interest in fire prevention as a part of the state defense program.

New Hampshire Chiefs Hold Fire Defense Meeting

A MEETING of the New Hampshire Fire Chiefs' Association held at Concord in December agreed on uniform air raid warnings for the state. Plans were also set in motion for the training of auxiliary firemen. Members of regular fire departments after receiving special training will conduct school for civilian auxiliary firemen.

Nassau County Volunteers Plan Mutual Aid with New York City



Mutual aid arrangements recently have been made between the fire department of New York City and the sixty-eight volunteer fire departments of adjoining Nassau County on Long Island. A designating number has been assigned to each volunteer fire department by the Nassau County Fire Commission. These numbers are shown on the above map and identified by the list below. Response to calls from New York City is governed by assignment cards covering four areas or zones in the Boroughs of Brooklyn or Queens. Approximate locations of city fire stations are shown by dots.

THE County Fire Commission of Nassau County, New York, recently reported on arrangements for mutual aid between the sixty-eight volunteer fire departments of the county and the New York City Fire Department. It was also reported that the establishment of the mutual aid arrangement together with a similar arrangement between New York City and Westchester County has been approved by the State Council of Defense. Each Nassau County fire chief was asked to obtain immediate approval from the governing board of his department as the last step necessary to permit operations in an emergency.

Legal opinions have been obtained and all agreed that firemen responding beyond the county line are protected exactly as they are when rendering assistance in adjoining villages within the county. The New York Fire Department has completed arrangements for sending groups of three engine com-

FIRE DEPARTMENTS OF NASSAU COUNTY, NEW YORK

1 Albertson
2 Baldwin
3 Bayville
4 Bellerose
5 Bellerose Terrace
6 Bellmore
7 Bethpage
8 Carle Place
9 East Meadow
10 East Norwich
11 East Rockaway
12 Williston
13 Elmont
14 Farmingdale
15 Floral Park
16 Floral Park Centre
17 Franklin Square - Munson
18 Freeport
19 Garden City
20 Garden City Park
21 Glen Cove
22 Glenwood
23 Great Neck Alerts
24 Great Neck Vigilants
25 Hempstead
26 Hewlett
27 Hicksville
28 Inwood
29 Island Park
30 Jericho
31 Lakeview
32 Lawrence - Cedarhurst
33 Locust Valley
34 Long Beach
35 Lynbrook
36 Malverne
37 Manhasset - Lakeville
38 Massapequa
39 Merrick
40 Mineola
41 New Hyde Park
42 North Bellmore
43 North Massapequa
44 North Merrick
45 Oceanside
46 Oyster Bay Atlantics
47 Oyster Bay, Co. No. 1
48 Plainview
49 Plandome
50 Point Lookout
51 Port Washington
52 Rockville Centre
53 Roosevelt
54 Roslyn Highlands
55 Roslyn Rescue
56 Sea Cliff
57 Seaford
58 South Floral Park
59 South Hempstead
60 Stewart Manor
61 Syosset
62 Uniondale
63 Valley Stream
64 Wantagh
65 Westbury
66 West Hempstead
67 Williston Park
68 Woodmere

ASSIGNMENT CARD NO. 1

Call	Companies		Assigned
1	371	372	241
2	231	151	541
3	511	201	401
4	221	561	651
5	251	252	253
6	631	632	351
7	521	522	523
8	181	182	21
9	191	411	601

The above assignment shows the indicated response of Nassau County fire companies to the battalion districts of New York City covered by County Mutual Aid Assignment Card No. 1. The card provides for response to as many as nine alarms or calls, with a response of three engines to each call.

panies, up to a total of twenty-seven companies, to aid any one or more of the volunteer departments of Nassau County. Other types of apparatus will be sent as required on special call. In order that all calls for aid may be verified all calls must be made from the office of the County Fire Commission.

IN return, Nassau County is expected to make similar responses to calls for aid from any of the twenty-four battalion districts of the New York Fire Department located in the Boroughs of Brooklyn and Queens. These battalions have been grouped into four geographical areas as shown on the accompanying map. This permits four assignment cards to cover all movements of county apparatus to New York City.

For the purpose of assigning the response of Nassau apparatus, each fire truck has been designated by a company number. The system of numbering is based on the number of each department as it appears in alphabetical order on the emergency chart of the County Fire Commission. This chart was reproduced on page 5 of VOLUNTEER FIREMEN for May, 1941. Thus, for example, company 371 is the first company of the 37th department listed on the chart, which is the Manhasset-Lakeville department. The number of pieces in each volunteer department actually varies from one to thirteen machines.

No distinction will be made between engine capacities in assigning response but all will be of 500 gallons per minute or greater capacity. Companies will be manned by six to eight men. According to the County Fire Commission's emergency chart the sixty-eight departments have 152 pumpers of at least 500 gallons per minute capacity. In addition the more than 7,500 volunteer firemen in the county man some 179 other pieces of apparatus.

The mutual aid assignments have been so arranged that no fire station in the county is left uncovered while sending help to New York City.

Control of Conflagration Hazards Important for Fire Defense

FOR many years the National Fire Protection Association has called attention to the considerable conflagration hazard that exists in cities where wooden shingle roofing predominates. We have also strongly urged the removal of old dilapidated buildings that may help to start or help the spread of a conflagration. Many cities have passed ordinances prohibiting the use of wooden shingle roofing within their city limits. Most well governed cities have likewise established procedures for removing old "conflagration breeder" structures.

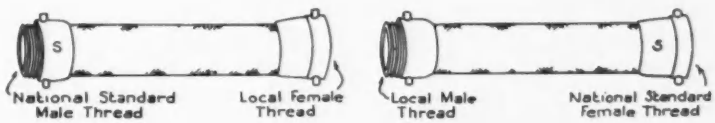
The present war emergency makes the conflagration hazard of even greater than normal importance. Fires that may be caused by enemy raiders must not be allowed to spread from building to building either by means of flying brands falling on combustible roofing or by direct exposure from old firetrap structures.

In times of emergency, fire departments will have their hands full without having to fight numerous fires started on the combustible roofs of exposed buildings. Accordingly it is suggested that in areas where wooden shingle roofing predominates householders be directed to take special precautions to help minimize this hazard. Unfortunately, no practical fireproofing treatment is available that will provide much protection for wooden shingles that are continually exposed to the weather. The best procedure would be to have the roofs wet down frequently during dry and windy periods particularly at times when air raids are imminent.

MANY a house has been lost during a conflagration because ladders were not available when brands first ignited combustible roofing. Under conflagration conditions the fire department ladder service is likely to be completely overtaxed. Accordingly, every householder should have a ladder available that will give access to the roof. During emergencies water pressure has frequently proved insufficient to permit use of garden hose at the roof level. In spite of this householders have often been able to save their homes during a conflagration provided they could get to the roof and cope with each brand as it fell using such readily available tools as water pails, mops or brooms, and wet blankets.

Where buildings or old wooden roofs are in such condition that they constitute a hazard to other structures in the neighborhood, remedial action should be taken at once to repair or remove the dilapidated structures and to replace dried and curled up wooden shingles with fire retardant roofing.

SHORT PIECES OF HOSE AND TWO SETS OF COUPLINGS MAKE THIS SET OF ADAPTERS



Under war emergency conditions it may be vitally important for fire departments and industrial plants using a non-standard fire hose thread to be able to connect their hose to national standard thread and also to other non-standard threads. Attempts to provide and carry on the apparatus adapters for every non-standard hose thread that may be encountered is likely to result in needless confusion under emergency conditions. N.F.P.A. Member Horace B. Clark, for many years Fire Commissioner at Hartford, Conn., and at present Commissioner of the Lost Acres Volunteer Fire Department in that state, suggests that a more practical expedient is to provide each department having non-standard thread with adapters converting the local thread to national standard. Preferably each piece of hose carrying apparatus in a department having non-standard hose threads would carry a set of these adapters and several extra sets would be provided at headquarters for the use of outside departments that might be called to help the local department in an emergency. One set of adapters to permit connection between local non-standard thread and national standard thread will take care of most situations. Standard thread now predominates in most sections of the United States and is widely used in industrial plant fire protection equipment.

Where it becomes necessary to connect two different non-standard threads, special adapters can be prepared having both of the non-standard threads. However, connection can also be made by use of two adapters to convert each of the non-standard threads to national standard. In order to provide complete flexibility of operation it is obviously necessary to provide adapters for converting both male and female threads to standard. The coupling of each adapter having standard thread should be marked to prevent confusion when the adapters are used at a fire.

A comparatively small frame airplane hangar typical of many in smaller communities, showing damage resulting from a fire. Fortunately, sufficient water was available to permit the fire department to prevent complete destruction.

Fire Protection for Airplane Hangars Assumes Importance as a War Measure

TO many persons now accustomed to thinking of aviation in terms of "flying fortresses" and "stratoliners," the civilian amateur pilots with their little "hedge-hopping" planes may seem like a hangover from the earlier barnstorming days of the flying machine. That both civil and military aeronautical authorities hold no such opinion, however, is evidenced by the interest the U. S. government has been showing in the use of small planes and in the training of a huge reservoir of civilian pilots. Many civilian pilots have been given further training and have been put to work as military flyers. In recent army maneuvers it was indicated that small low speed aircraft, such as civilian pilots commonly use, have some distinct advantages over high speed military aircraft for certain observation and messenger jobs.

All over the United States at many small local airports the government is subsidizing the training of civilian pilots. Training of pilots is also being carried on at many colleges and universities. This means that your home-town airport may be playing a part in the national defense program, thus making its protection against fire of more than usual importance.

Unfortunately, a large proportion of structures now used as airplane hangars at small airports, leave much to be desired from the point of view of fire protection. In fact, structurally many of them closely resemble a large barn or shed, with gasoline and flammable airplanes replacing hay as the occupancy hazard. Volunteer firemen do not have to be told what this means from a fire fighting angle. Unless a fire can be controlled quickly with adequate first aid equipment, large quantities of water and heavy streams are likely to be required to stop the spread of fire through the large areas of open combustible construction. Without an unusually good hydrant supply or other reliable sources of water immediately available, there may be slim chance of preventing a serious loss once a fire starts. Of course, modern airport structures such as those found in big-city airport terminals are commonly protected against fires with specially designed automatic sprinkler equipments having powerful water supplies, and designed to deluge any area where a fire might occur. The record of sprinkler performance in hangars has been 100 per cent satisfactory.

NEEDLESS to say, the best method of all for controlling fires in airplane hangars, as in other properties, is to prevent their start. A study of 79 airplane hangar fires reported to the N.F.P.A. in the ten-year period 1931 to 1940 inclusive gives a pretty good indication of the most frequent causes of hangar fires to be guarded against.

As might be expected, ignition of flammable liquids and vapors caused the most fires, being responsible for 20 out of 64 fires for which the cause was determined. Leading reasons for ignition of flammable liquids were: gasoline vapor ignited, 6 fires; spark from switch or short circuit at gasoline pump, 5 fires; extension light ignited doped fabric, 3 fires; and gasoline vapor ignited at sump pit, 2 fires.

Other leading special hazard causes were: sparks from welding operations, 5 fires; short circuit in wiring of plane in hangars, 4 fires; spray finishing or dope ignited, 2 fires; heating wax or oil on stove, 2 fires.

Of the 13 fires attributed to common hazard causes, 5 were due to heating appliances; 4 were of supposed incendiary origin; and one each was charged to exposure from grass fire, electric drill, lightning, and ignition of rubbish. With a fairly high percentage of incendiary or suspicious fires reported in peacetime, the importance of adequate watch service for airport property under the present war conditions should be evident.

The high proportion of fires due to flammable liquids would indicate the desirability of maintaining a sufficient number of extinguishers for Class B fires such as foam, loaded stream, vaporizing liquid, or carbon dioxide types, among the first aid fire appliances at a hangar. This is similar to the practice for garages. As a matter of fact an airplane hangar is simply a garage for airplanes, and aside from the fact that it is usually located at the outskirts of the community where it is hard for the fire department to bring its full force to bear upon a fire immediately, the problem may be fairly compared with the job of protecting a large garage against fire. The N.F.P.A. fire record of airplane hangars indicates that in hangars not protected by automatic sprinklers the average loss is a large percentage of the total value at stake.

A more detailed study of airplane hangar fires is contained in the Airplane Hangar Fire Record, published by the N.F.P.A. in 1941, price 15 cents.

Program for Conservation of Materials in Apparatus Manufacture Revised by O.P.M.

EARLY in October, as reported in VOLUNTEER FIREMEN for November, 1941, the U. S. Office of Production Management addressed a request to fire apparatus manufacturers asking that a program to conserve the supply of essential materials be put into effect. According to a subsequent letter sent to the manufacturers last month by Douglas C. MacKeachie, Director, Division of Purchases, O.P.M., certain changes and additions are now being made in the program.

It may be recalled that the previous order requested fire apparatus manufacturers not to make the following types of fire apparatus: a. sedans of all types; b. quintuple types; c. service ladder trucks; and d. squad, salvage and rescue cars. The O.P.M. has now given the following specific definitions for these four types of apparatus not considered essential under the present emergency conditions:

"By 'sedan' is meant motorized fire apparatus of which more than 50 per cent of the area behind the windshield is enclosed, excluding, however, 'cab type' apparatus, which may be defined as motorized fire apparatus in which the canopy covers not more than 9 persons, seated.

"By 'quintuple type' is meant motorized fire apparatus on the chassis of which is combined (1) a major pump, (2) a water tank, (3) a hose body, (4) an aerial ladder, and (5) a complement of service or ground ladders.

"By 'service ladder truck' is meant motorized fire apparatus on which the equipment carried consists of a complement of service or ground ladders and miscellaneous equipment and tools.

"By 'squad car' is meant motorized fire apparatus designed primarily for carrying men. By 'salvage car' is meant motorized fire apparatus designed for carrying canvas covers, life nets, etc. By 'rescue car' is meant motorized fire apparatus designed for carrying first aid equipment."

In the conservation program outlined last October the O.P.M. specifically limited models of pumpers to the following three standard sizes: a. 500-600 gallons per minute, b. 750 gallons per minute, and c. 1000-1250 gallons per minute. These limits are now further defined as the ratings recommended by the National Board of Fire Underwriters. As most firemen know, these call for delivery of capacity at 120 pounds pressure, one-half capacity at 200 pounds pressure, and one-third capacity at 250 pounds pressure.

Another important item cleared up is the restrictions regarding the manufacture of forest fire trucks, crash trucks, or booster tank trucks. Previous restrictions regarding size of water tanks have been removed and pump capacities of from 10 to 500 gallons per minute are now permitted.

Delayed Alarm Contributes to Fire Loss at Industrial Plant

A REPORT by the Ohio Inspection Bureau (member N.F.P.A.) covering a recent three alarm fire in an industrial plant in their state shows how delay in sending in an alarm together with other errors by employees may contribute to a sizeable loss. The plant was making wiper cloths for the military services.

The fire in question occurred about 4 A. M. in a shredding machine. Such fires were not uncommon in this plant and the employees at the machine, as was their custom, went to work on it with hand hose and did not bother to call the fire department at once. About 4:10 A. M. the night superintendent coming out of a lunch room nearby noticed the blaze. He went to the boiler room and found the watchman who had heard the sprinkler alarm operating. The watchman told him to call the fire department using a telephone number marked on the wall of the boiler room. However, this number was not the number of the fire department but the number of a nearby grocery store. After trying futilely to get an answer to this call, the night superintendent realized something was amiss and called the police department who relayed the call to the fire department at 4:15 A. M.

The watchman stated that in his excitement he forgot all about the fire alarm boxes provided as part of the watchman system at the plant.

Now is the time for fire departments to remind their neighbors that old Christmas trees are a needless and serious fire hazard.

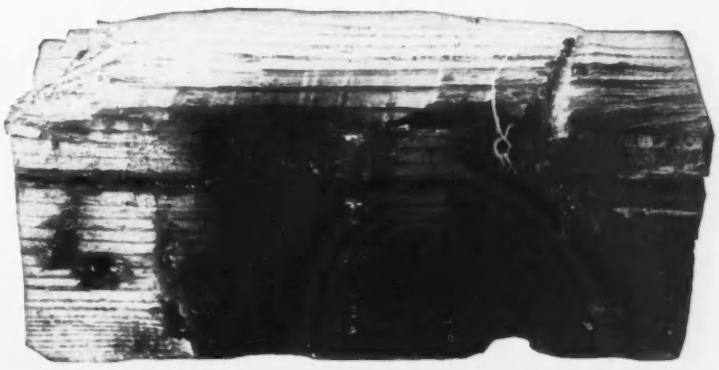
Low Temperature Ignition Of Wood a Possibility

ORDINARILY, temperatures of 500° F. or higher are required to ignite wood, but under some conditions wood can be ignited at not much higher than 200°. This is probably the cause of a good many fires of mysterious origin.

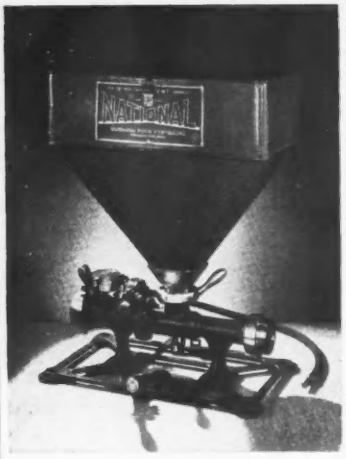
Long continued heat causes changes in wood which after a period of years may result in ignition from the heat of an ordinary steam pipe at around 225° or even lower. What happens is the formation of a charcoal-like substance which ignites at a much lower temperature than wood or perhaps ignites spontaneously. There are a number of cases on record where it has been definitely proved that fires have been caused by ordinary steam pipes in contact with wood over a long period of years, and there are probably thousands of other cases of fire starting around chimneys, stoves or pipes where the fire is not due to any spark or flames escaping through a crack, but simply to the effect of long continued, relatively moderate heat.

The way to avoid such fires, of course, is to have ample clearance between woodwork and any source of heat. A safe rule is never to allow any woodwork to get too hot to touch comfortably.

The danger of fire from this cause is greater, of course, in places where air cannot circulate about the wood freely or where there is no insulation between the source of heat and the wood. Firemen when inspecting buildings should see that there is plenty of air space to carry off the heat and prevent the charring of wood close by.



Photograph of a wooden support ignited by contact with steam pipes.



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The Instant is not only popular for fire department use but also for private protection. Operating efficiently at a temperature of 40° below zero, it will extinguish rapidly all classes of fires including small fires in gasoline, oil, grease, paint, etc. It is the most efficient extinguisher to use on fires in rubber.
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TRAINING NOTES

Iowa Reports Training Activities

EIGHT hundred and thirty-one firemen from 153 towns and cities attended the Fall District Fire Schools in Iowa, according to a report by the State Fire School Director Lindon J. Murphy. Attendance was as follows: Akron, 55; Audubon, 94; Clarion, 89; Council Bluffs, 59; Elkader, 118; Milford, 54; Mount Pleasant, 60; Osceola, 37; State Center, 179; and Tipton, 86.

Iowa has become the tenth state to use the firemenship training texts prepared at Oklahoma A. & M. College, in cooperation with the firemen's training authorities of the various states using these standard texts.

During the year 1941, 431 Iowa firemen completed one or more units in either the 25-hour introductory training course, or the 60-hour standard training course, available to departments in that state.

1942 School for Kentucky Firemen

TENTATIVE dates for the 1942 Annual School for Firemen on the University of Kentucky campus have been set for July 28 to 31, inclusive.

Minnesota Held Ten Fire Schools in 1941

A TOTAL of 1,672 firemen from 277 departments received training at ten fire schools held in Minnesota in 1941 according to Deputy Fire Marshal Leonard C. Lund. These schools included one to three days of instruction and included the Northwest Fire School held at Minneapolis last May with an attendance of 155 firemen. The other Minnesota fire schools held in 1941 with their location and registration figures follow:

Arrowhead Regional School, Two Harbors, 131; Southern Minnesota, Bricelyn, 126; St. Croix Valley, North St. Paul, 175; Southwest Regional, Tracy, 229; Northern Regional, Fosston, 125; United Fire Fighters, Hopkins, 170; Southeast Regional, Lake City, 202; Northwest Regional, Moorhead, 234; and Cuyuna Range, Clarissa, 125.

Nebraska Reports 1941 Training Activities

STATE fire instructor J. I. Fetters of Nebraska reports that during 1941 1,050 firemen in 41 cities completed the 18 to 20-hour training course given under the state's vocational fire training program. In addition six regional fire schools were held during the year and 206 firemen from 51 departments received training at the state fire school held at Grand Island last April.

Text on Inspection Practices Ready at Oklahoma

ONE of the most interesting and useful publications ever made available to firemen, the new text on Inspection Practices, issued at Oklahoma A. & M. College, is a four star text that no fire department can afford to overlook. This 96-page text is Unit 10, of the series of fire service training texts prepared in cooperation with the fire department instructors of ten cooperating states. It is available for only 25 cents a copy from the College Book Store at Stillwater, Oklahoma, and under local covers in several other states.

Section headings in the text are: The Purpose of Fire Department Inspections; Inspection Responsibility; Inspection Authority; Inspection Organization; Fire Department Inspection Organization; Fire Causes; Fire Hazards; Private Fire Protection; Codes and Ordinances; Inspection Technique; Inspection Forms, Records, and Check Lists; Inspection Procedure; Fire Investigation; Sketching and Mapping; and Questions and Problems.

The principal author is W. Fred Heisler of Oklahoma A. & M. College, who is chairman of the new N.F.P.A. Committee on Firemen's Training. The text has been adopted for use in the training programs of the states of Alabama, Arkansas, Florida, Indiana, Iowa, Michigan, New Mexico, North Dakota, Oklahoma, and Pennsylvania.

Washington State Has Active Training Program

SECRETARY W. A. Groce of the Washington State Association of Fire Chiefs reports considerable progress in firemen's training activities in his state during the past year. The 1941 state legislature appropriated money for a full-time itinerant fire service instructor. Captain J. R. Cook of the Seattle Fire Department was employed on July 1st to carry on this work. During his first three months' work, 1,975 firemen from 104 muncipalities were given training.

At the request of the State Board of Education, an advisory committee was set up to direct the training program. The committee is making plans to develop 20 to 25 district training centers to cover the entire state.

Approximately 500 chiefs and firemen attended the 11th annual fire school held at Yakima last August. The 12th annual fire school will be held at Olympia during 1942.

Louisiana Organizes New Volunteer Fire Units

SPONSORED by the National Defense Council of Louisiana, 30 cities of that state are proceeding with the organization of volunteer fire fighting units.

Maryland Volunteer Departments Have Organized Auxiliary Forces

CHIEF J. W. Just, State Fire Coordinator, has announced that 44 volunteer fire departments in Maryland have organized auxiliary groups having a total enrollment of 1437 men. Departments having auxiliary groups are: Bel Air, Bishopville, Brooklyn, Brunswick, Cecilton, Chestertown, College Park, Earleigh Heights, Easton, Elkton, Ellicott City, Federalsburg, United Steam Fire Engine Co. of Frederick, Frostburg, Gaithersburg, Glyndon, Grantsville, Greenbelt, Hurlock, Kensington, Lansdowne, LaVale, Linthicum Heights, Luke, Midland, Millington, Mt. Rainier, Newark, Oakland, Orchard Beach, Perryville, Pikesville, Pocomoke City, Princess Anne, Queenstown, Reisterstown, Ridgely, Riverdale Heights, St. Michaels, Snow Hill, Sudlersville, Taneytown, Upper Marlboro, and Williamsport.

In addition the Montgomery County Firemen's Association is preparing a county-wide registration for auxiliary firemen.

NEW TEXTS

"Fire Prevention and Fire Fighting," a manual for auxiliary fire fighters, has been issued by the Oregon State Defense Council (60 pages, September, 1941). The material for this manual was prepared by State Fire Marshal Seth Thompson and State Forester Nelson S. Rogers.

A Fire Defense Information Bulletin containing an outline for the organization of local auxiliary fire forces has recently been distributed by the Kansas State Council of Defense. The bulletin was prepared by the Kansas Advisory Committee for Fire Defense.

"The Training of Inhalator Squads," a reference manual by David F. Glines, Supervisor of Fire Training, California State Department of Education, published and distributed by the Educational Committee, International Association of Fire Chiefs, 24 West 40th Street, New York. 68 pages.

The U. S. Department of Labor has issued as Volume II, Bulletin 684, a study of Salaries and Hours of Labor in Municipal Fire Departments in 67 Middle Atlantic Cities.

ANNOUNCEMENTS

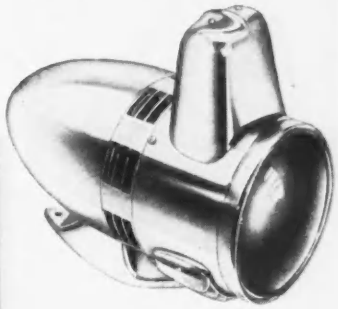
The Fog Nozzle Company, 1520 East Slauson Avenue, Los Angeles, Calif., has just issued literature describing their equipment with special emphasis placed on two new models known as the 4A Du-al and the 4AF fognozl. The former model is described as an "all purpose fognozl" and may be changed instantly from fog to solid stream. The 4AF model comes in 1-inch and 1½-inch sizes for use on booster and forestry lines. It is equipped with changeable tips for varied water delivery.

Weltronic Corp., Detroit, Michigan, announces a completely self-contained radio telephone combination transmitter and receiver weighing only four pounds and resembling the handset of a "French" telephone. The unit is available to governmental agencies including fire and police departments, as well as individuals, subject to licensing by the Federal Communications Commission, as well as priority rating. The built-in battery power supply has a rating of about 8 hours under continuous operation. With a range of upwards of a mile the units are provided with finger operated selector to change from transmitting to receiving. The frequency range is adjustable from 112 to 300 megacycles.

U-C Lite Manufacturing Co., 500 North Dearborn St., Chicago, Illinois, have issued a 2-color bulletin illustrating their electric hand lamps designated as Big Beam No. 1000 using dry cell batteries, and Big Beam No. 411 having wet cell batteries. It is stated that the battery for No. 411 can be recharged "from any line regardless of voltage or whether AC or DC" current. Charging can also be done from automobile or boat engines.

The American Chain & Cable Company, Inc., Bridgeport, Connecticut, offers readers of VOLUNTEER FIREMEN a 1942 calendar illustrated by a copy of a poster issued by that company many years ago depicting a snowy night at Times Square, New York City, and showing a battalion chief's car of early vintage, rounding the corner ahead of a horse drawn ladder truck.

FEDERAL
TRAFFIK-KING
MODEL 67
SIREN



This exceptional siren is designed for long service. It combines a brilliant, sweeping red beam of an oscillating light and a powerful deep tone.

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AUXILIARY WATER SUPPLIES STRENGTHEN FIRE DEFENSES

MANY fire departments have been giving attention recently to the development of auxiliary water supplies for use under emergency conditions where the regular hydrant supplies may become overtaxed or interrupted. Some have prepared elaborate maps showing the auxiliary supplies in their community. In both urban and rural areas there are usually water sources that can be made available for pumper suction. In cities, auxiliary supplies may supplement inadequate or uncertain public water systems, or provide added protection at locations of special importance such as plants engaged in defense work.

Auxiliary sources in cities include water supplies at industrial plants such as cooling tanks or ponds, railroad water tanks, ponds in public parks, swimming pools and river or harbor waters. To make such supplies quickly available for fire use, driveways or approaches may be needed to give pumpers ready access. Threaded outlets or manholes for suction hose may be required at tanks.

To permit pumpers to take suction promptly from rivers or harbors, permanently installed suction pipes of adequate size are desirable. Such pipes should have a screened intake well below low water level and outlets should be provided with fire department suction hose thread properly capped. Such pipes save the time required for connecting the heavy fire department suction hose and usually give better performance.

To make ponds in public parks available for fire department use it may be desirable to pipe the water by gravity to a fire cistern properly constructed at a convenient location.

In rural areas suction supplies frequently furnish the only water available for fire department pumpers. Such supplies include wells, brooks, ponds, as well as stock tanks and other private water supplies on farms and private estates. (See the N.F.P.A. pamphlet Water Supplies for Fire Protection on Farms, 12 pp., 10 cents).

THE fact that water is in sight does not necessarily indicate that it is available for pumper suction. It is often necessary to provide suitable approaches and pumper stands with adequate foundations so that the apparatus can get near to the water supply without becoming mired. Also some sort of basin or cistern is frequently necessary in which water can be impounded to permit the suction hose of a pumper to be properly immersed.

Many rural pumpers commonly carry forty feet or more of small suction hose for use where suction supplies are difficult to approach. Some rural departments are equipped with portable gasoline driven auxiliary pumps which are used to relay water from auxiliary supplies to the regular pumper. Such arrangements may be inadequate to supply large streams but might prove invaluable, neverthless, under emergency conditions.

Suction supplies must, in general, be utilized where they are found. However, when preparing them for use by pumpers, consideration should be given to reliability of supply and convenience in regard to buildings to be protected. Distances of more than 750 to 1,000 feet are seldom considered good protection due to the time required to lay long hose lines, possible limitations in the amounts of hose available, and high pumping pressures likely to be required for long lines. In closely built areas suction supplies should be nearer to the property to be protected.

To be reliable, suction sources should be available at all seasons and must be kept clean. Suction sources not located in the path of a stream are less likely to become filled by stream deposits. The fire department should have a regular routine to see that these emergency facilities are maintained in a serviceable condition at all times. Perhaps the work can be assigned to the present hydrant inspectors, but the important point is to see that someone is held responsible for maintenance.

WHERE a survey of sources of auxiliary supplies shows too great a gap in any locality it may be desirable to provide emergency cisterns in areas needing extra water supplies. It has been suggested that such cisterns can be quickly constructed by having a power shovel dig a hole of the desired size on any conveniently located municipal property or on private property donated for the purpose. A cistern formed by removing approximately 75 yards of earth will, when full, provide about a one hour supply for a stream from a 1-inch nozzle, or a four-hour supply for a ½-inch nozzle.

Such emergency cisterns can be kept filled by running water through a hose line from a nearby hydrant as needed. If it is desired to retard the seepage of water into the ground the cisterns can be lined with stone or concrete. The problem of filling cisterns can be simplified by extending a gated supply line from a nearby water main. Obviously any cistern must be suitably fenced or covered to prevent accidents.

Cisterns have proved of value on numerous occasions when hydrant pressures have become inadequate at large fires. They are also of special value where outside pumpers having differing hose threads are called to aid the local department. Many communities have old unused fire cisterns that could be repaired and placed in service as an auxiliary supply during the war emergency.

Pumper furnishing three 1½-inch hose streams taking suction from a water hole supplied by a drainage ditch from a swamp. Such auxiliary water sources might prove invaluable under emergency conditions.

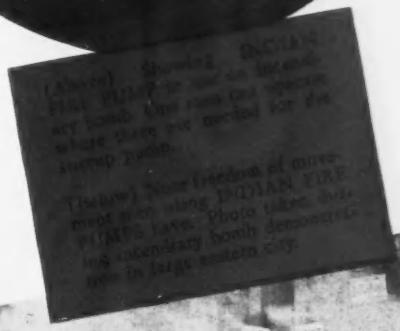
AIR ATTACK?

Tests Prove INDIAN FIRE PUMPS Control Incendiary Bombs!

"It is the duty of every fire fighter to be prepared to meet any contingency. When a fire is lit by an incendiary bomb it will be too late to explain that training and additional personnel were needed."

—*Mayor* F. H. LaGUARDIA,
U. S. Director of Civilian Defense

Firemen demonstrate INDIAN FIRE PUMPS to prospective defense volunteer firemen. (*Chromium tanks illustrated*).



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Tests bring out the marked advantages of INDIAN FIRE PUMPS for incendiary bomb work. You will want INDIANS for your Civilian Defense preparations. We can make prompt shipment. ORDER NOW! Only clear water used.

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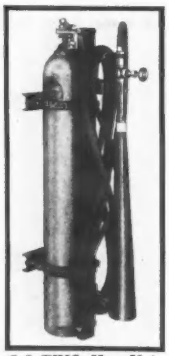

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PYRENE PRIZE LETTER CONTEST

THIS is a contest for firemen. Any fireman, whether a private or a chief, whether volunteer or paid, has the same chance to win in this easy contest designed to show what can be done with approved fire extinguishers. Persons not holding membership in a fire company or a fire department cannot enter this contest which is limited to firemen.

You have probably been present at numerous fires where approved fire extinguishers have been successfully used. Every month the above cash prizes are paid out to those whose letters contain the best stories. More fires are put out with fire extinguishers than by any other means. The stories reported in this contest show the value of having an extinguisher handy.

It's the story we want, not letter writing ability. Get the facts down on paper and we will attend to any rewriting necessary to get the story into the space available in these columns. Be sure to give your fire department connection when writing as the contest is limited to fire department or fire brigade members.

The contest is sponsored cooperatively by the Pyrene Manufacturing Company of Newark, N. J., and VOLUNTEER FIREMEN to bring forth the lessons learned from actual fires of the value of fire extinguishers.

FIRST PRIZE—$10.00

JOSEPH F. WICKLESS, *Captain*
Volunteer Fire Department
Lansdowne, Maryland

Fire at Boatyard

While preparing for a fishing trip this summer with a friend, we were attracted by a call of "fire" from a nearby boat which was being overhauled. We ran to the boat and found that the bilge was afire. Due to excitement the owner forgot where his extinguisher was placed so we ran to another boat and borrowed one. In the meantime the owner had located his carbon tetrachloride extinguisher (which incidentally was in its proper place). We applied the liquid to the fire, extinguishing the blaze immediately and saving several thousand dollars in property. There were many boats tied up in this yard with some valued at $20,000 or more so it was important to have the little 1-quart extinguishers handy.

SECOND PRIZE—$3.00

A. J. HANSON, *Custodian*
Fire Department
Heron Lake, Minnesota

Damage Was Slight

The other day while standing on a street corner talking with a friend we happened to look down the street and saw a Ford V8 coming to town and noticed that the car was afire. I ran over to the fire station and grabbed a foam extinguisher and then stopped the car and put out the fire. The blaze was caused by the carburetor overflowing. Gasoline that had run over the motor was ignited by a spark from a loose spark plug wire. Damage was slight because the foam extinguisher was quickly put into use.

THIRD PRIZE—$2.00

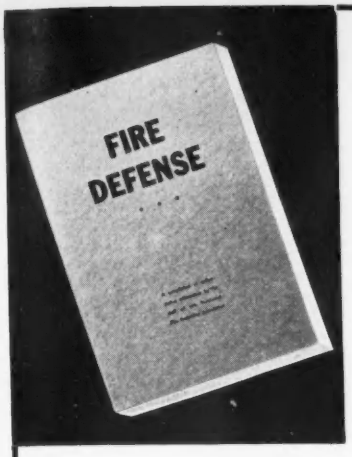
DON TUCCI
Fire Department, Weston, W. Va.

Early Morning Hotel Fire

A hotel blaze which might have taken many lives was averted by the quick action of a young man with a 2½-gallon soda-acid type fire extinguisher. While sitting in the lobby of the Home Hotel about 5 A. M. the smell of smoke was detected. After locating the fire in one of the rest rooms, he put the extinguisher to work on the fire which was reaching to the ceiling and it was quickly extinguished.

CONTEST RULES

1. Contestants in the Pyrene Prize Letter Contest must be members of their local fire department.
2. Letters are to describe actual experiences where an approved fire extinguisher of any make has saved lives or property.
3. Trade names may be used but will be deleted in publication. Publishers reserve the right to edit winning letters to permit publication.
4. Each contestant automatically vouches for the truth of the facts presented from his own or others' experience.
5. Only one letter may be submitted each month.
6. Letters must be legibly written in ink or typewritten on white paper, one side only. Preference will be given to letters not over 250 words in length.
7. Letters received after the 8th day of the month will be judged in following month's competition.
8. Monthly prizes in cash will be: 1st, $10.00; 2nd, $3.00; and 3rd, $2.00.
9. Address contest letters to Pyrene Prize Letter Contest, National Fire Protection Association, 60 Batterymarch St., Boston, Mass.



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HANDBOOK OF FIRE PROTECTION

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In keeping with the purpose of a reference book, all information is presented clearly, concisely and as far as possible in non-technical language. More than 100 men who are recognized authorities in the various branches of the fire protection engineering profession aided in the task of preparing this edition.

The Ninth Edition of the Handbook was issued early this year with a printing of 5,000 copies expected to last for five years. Already the large demand has necessitated a second printing this year.

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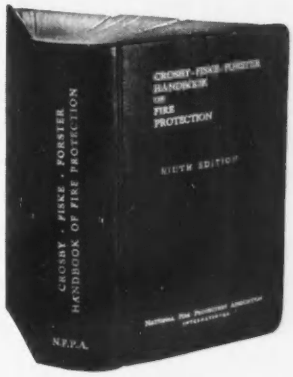
INTERNATIONAL
60 Batterymarch Street, Boston, Mass.



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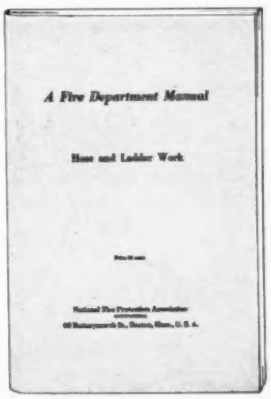

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HOSE AND LADDER WORK

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FIRE ALARM SYSTEMS
For Emergency Signaling

The Municipal Fire Alarm Box, Three-fold type.

Alarms initiated by these boxes instantly energize the fire department. There is no delay after the alarm is given.

THE FIRE DEFENSE IS A NATIONAL DEFENSE

Millions of dollars in property values—materials, equipment, buildings and in some cases human lives—essential to the National Defense Program have within a very recent period been destroyed by Fire. *Delayed Alarms*, according to published reports, contributed in every case to the appalling fire waste.

Gamewell fire alarm systems with an adequate distribution of Fire Alarm Boxes at all points of fire hazard provide the means for the elimination of delay and the consequent fire waste.

WE COOPERATE FREELY IN PLANNING FIRE ALARM PROTECTION

THE GAMEWELL COMPANY
NEWTON UPPER FALLS, MASSACHUSETTS